

**SUNSHINE EDUCATION AND RESEARCH CENTER AT THE
UNIVERSITY OF SOUTH FLORIDA**

SUMMARY ANNUAL REPORT

JULY 1, 2010 – JUNE 30, 2011

NIOSH Training Grant

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Submitted by:

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CENTER DIRECTOR**

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Center Wide: Thomas Bernard, Center Director

The University of South Florida Sunshine Education and Research Center (SERC) improves the health, safety and well being of workers is in its 14th year. The program provides training in industrial hygiene, occupational health nursing, occupational health psychology, occupational safety and occupational medicine. Additionally, the continuing education and outreach programs provide training to OSH professionals in the region and state. The Pilot Research Training Project provides funding to other universities in Region VI (Georgia and Clemson), Florida and Puerto Rico on diverse topics resulting in completion of dissertations and presentations at national, regional and state professional conferences.

The NORA Interdisciplinary Research Seminars provides an opportunity for NIOSH supported trainees and OSH professionals to present research and provide outreach for the OSH community, including interdisciplinary pilot studies regarding military veterans and reintegration to work and life funded by the Department of Defense (Groer, Burns & Hall) and a NIOSH Pilot Project (Hall, Chang & Burns) respectively.

Continuing education and outreach are central elements of the Sunshine ERC, including continued planning for co-sponsorship of conferences including the other two ERCs in Region IV. The second major effort is co-sponsoring meetings and OSH professional association conferences. The SERC provides faculty speakers with expertise in the topic of interest and conducts an annual updated needs assessment of our community of interest for the Florida State Association of Occupational Health Nursing during the annual conference.

The USF *SafetyFlorida*, which is an OSHA 21d consultation program continues to provide the SERC with OS&H professionals with mentors for interdisciplinary student trainee field experiences (OHN, OHP and OMR) in addition to the other field experience sites our trainees visit.

A new effort this year was to enhance the perceived value of national certification among our trainees. We instituted a specific activity to encourage completion of the CPH exam. Eight (8) trainees took and passed the exam across four programs (IH, OHN, OMR, and OS). The encouragement is that the College of Public Health (COPH) comprehensive exam is waived for those students who take the CPH exam and COPH pays the \$400 exam fee. In addition, one OS student attended training for the ASP and passed the examination.

The ERC Director worked with the University of Florida to prepare an application for a TPG based on the One Health model for humans and animals. The University of Kentucky Ag Center was another collaborator.

The current enrollment and graduations last year of our MS (or MPH) and PhD students is shown below.

| Program | Enrolled/MS | Enrolled/PhD | Graduated/MS | Graduated/PhD |
|---|-------------|--------------|--------------|---------------|
| Industrial Hygiene | 6 | 8 | 4 | 2 |
| Occupation Health Nursing (MS&MPH) Two degrees earned concurrently | 17 | n/a | 2 | n/a |
| Occupational Health Psychology | n/a | 9 | n/a | 3 |
| Occupational Medicine | 6 | n/a | 1 | n/a |
| Occupational Safety | 11 | n/a | 2 | n/a |

Pilot Projects: Yehia Hammad, Director

Dr. Hammad served as the Director of Research for the PRP and supervised the administration and management of the awarded projects. He also served as the Chair of the Scientific Review Committee. The pilot project announcement and application materials were available in April and were posted on the internet through the College of Public Health Website. In addition, the announcement and application materials were e-mailed to Directors of ERCs and TPGs in the region, as well as researchers and faculty members in the area of occupational safety and health at other universities and colleges in Florida. The Scientific Review Committee is comprised of 5 additional individuals, two faculty members from USF and a faculty member from the University of Utah, Florida International University and the University of Puerto Rico. Eight projects were funded. The topics of these projects were: (1) A Qualitative Study of Heat Stress in Firefighters: The Enemy Within. (2) Assessing Cytotoxicity for Determining Dispersant Use in Oil Spill Disasters. (3) Perceptual Responses in

Predicting Physiological Measures of Heat Stress While Wearing Three Clothing Ensembles. (4) Generation of Nanoparticles and Size Distribution. (5) Sampling and Characterization of Three Different Types of Nanoparticle Aerosols. (6) Small Aerosol Penetration of Stapled Single User N95 Respirators. (7) Breastfeeding and the Working Mom: The Impact of Organizational Policy on Women's Well-Being. (8) Examining the effects of physical fitness and acute exercise on cognitive functioning: Implications for workplace safety initiatives.

Industrial Hygiene: Yehia Hammad, Director

The Industrial Hygiene Program had 14 students enrolled (6 MSPH, 8 PhD), and graduated 6 (4 MSPH, 2 PhD). A total of 5 presentations / posters were exhibited - 1 at national events, and 4 at regional/local events, and one student paper was published in the journal *Inhalation Toxicology*. The Industrial Hygiene Program continues to be accredited by ABET, and practices ongoing self-improvement through evaluation by faculty, students, graduates, employee surveys, and review by the Center's External Advisory Board. The program meets its principal goal of furnishing working professionals and future researchers with a high quality educational experience to meet the critical growing need for this specialty in the State of Florida, the Southeastern United States, and the nation, as indicated by employment need projections published by the Bureau of Labor Statistics. The Industrial Hygiene Program is the focal point for the Center's interdisciplinary activities, and minority recruitment efforts. As a result of our discussions with the External Advisory Board we now include a joint session for the Occupational Safety Management and the Principles of Industrial Hygiene courses, featuring invited speakers on timely subjects.

Occupational Health Nursing: Candace Burns, Director

The goal of the Occupational Health Nursing (OHN) Program is to provide education, training and research experiences to master's level pre-doctoral student trainees. Trainees are prepared to serve not only in leadership and educator roles as OHNs, but also to provide advanced direct patient care / work services in the innovative role of the OHN Nurse Practitioner (NP). Five trainees were admitted and three trainees graduated during the reporting period bringing the total OHN enrollment to 19 at the end of the reporting period. Three trainees are projected to graduate in the next reporting period and five trainees were admitted as of Fall 2011. In addition, one unfunded doctoral student (PhD) is conducting her dissertation research in occupational health literacy and understanding of Material Safety Data Sheets; she is projected to defend and graduate December 2011. Two OHN trainees collaborated with an OHP doctoral student and OMR regarding the interdisciplinary research special projects. Students presented two posters at a national conference and one at a local research conference and had three manuscripts accepted for publication. The OHN program and ERC continue to collaborate / co-sponsor with the Florida State Association of Occupational Health Nursing Annual Conference. Dr. Burns is conducting research related to occupational stress in women veterans (DoD funded) and a pilot study on occupational stress in nurses (USF Interdisciplinary Research funding).

Occupational Health Psychology: Paul Spector, Director

The Occupational Health Psychology (OHP) program completed its 5th year as a member of the Sunshine ERC during the 2010-11 academic year. We graduated two trainees during the period, Ashley Nixon who is an assistant professor at Willamette University in Salem Oregon and Charlie Ottinot who is Associate Campus Dean at Strayer University in Tampa. To date all 7 OHP graduates, including 2 from before joining the ERC work in academic settings, with 5 as assistant professors. No new trainees joined the program this year, and there are currently 7 full-time trainees enrolled. Two current trainees completed their MA theses, one proposed her dissertation, and three completed their comprehensive examination. Collectively our current trainees coauthored 11 refereed journal articles and 16 conference papers at national conferences.

Occupational Medicine Residency Program: Hamisu Salihu, Director

OMR had a total of six trainees for the 2010-2011 budget year. As of June 30, 2011, two of the three second year trainees have graduated, while the third is expected to graduate in December 2011. One trainee successfully defended his thesis project titled "Validity of the USF Safe Exposure Time Heat Stress Equation" in December 2010, five months earlier than the expected thesis defense date, and completed his Occupational Medicine training in June 2011. Another resident completed the trainee program in June 2011 after

successfully defending her thesis project titled "Sharps Injuries in Medical Training: Higher Risk for Residents than for Medical Students." This same trainee presented her poster titled "A Risk Analysis for Occupationally-Acquired Bloodborne Pathogens among Medical Trainees at the University Of South Florida: Application of the WHO Model at the annual Sunshine ERC Research Day in October 2010." This project formed the basis of a manuscript that has been accepted for publication in the "Journal of Medical Education". The third graduate presented and successfully defended her thesis titled "Impact of a Wellness Clinic Visit on Cardiovascular Risk Biomarkers in an Employee Population" on October 17, 2011. The OMR recruited one trainee into the program for the upcoming year. As of August 2010, the program now participates in the ERAS match program in order to increase the number of applicants and our potential trainee pool.

Occupational Safety Program: Thomas Bernard, Director

The Occupational Safety Program had a total of eleven master's (MPH) student trainees during the reporting period. Two trainees graduated and both are working in an OS&H field. The MPH Special Projects were: Garcia -- *Does ISO 9001:2008 the Quality Management System Standard provide enough structure to improve safety within general industry?*; Wickham -- *Safety as a Component of Sustainability: Assessing OSHA Violations in Contractors That Have Worked on Certified LEED Home Projects*. Both of these projects built on the integration of occupational health psychology into the OS program. Both of the recent graduates were given extramural training to prepare for the ASP certification examination. At this time, one sat for and passed the ASP exam. This practice will continue to see if early certification continues among our trainees.

Continuing Education and Hazardous Substance Training: Hana Osman, Director

CONTINUING EDUCATION ANNUAL REPORT: Two thousand two hundred and forty one (2,241) individuals participated in the CE program during this period. Three hundred and eighty-eight (388) individuals worked for private industries, and the remaining 1,853 worked in federal, state, and local agencies as well as in other sectors. Collaboration with the Florida Workers Compensation Institute, the American Society of Safety Engineers and the OSHA Training Institute continues to offer educational opportunities throughout Florida. Research to Practice (r2p) seminars, in collaboration with The Deep South Education and Research Center at the University of Alabama at Birmingham and Auburn as well as with the North Carolina Education and Research Center, continue to be planned and offered jointly with the Florida Workers Compensation annual conference in Orlando. The Florida Society of Occupational Health Nursing (FSOHN) and the Sunshine ERC (SERC) co-sponsor the FSOHN annual conference, and the annual needs assessment conducted by the SERC informs the following year's conference. Needs assessments, program evaluations, and impact assessments are conducted routinely, and the results are shared with course instructors as well as with the SERC faculty and external advisory board to ensure the continuous improvement of course offerings.

HAZARDOUS SUBSTANCES TRAINING ANNUAL REPORT: One thousand one hundred and fourteen (1,114) individuals were trained in using hazardous substances safely during this reporting period. Six hundred and forty-one (641) participants identified their employers as private sector employers. In collaboration with the OSHA Training Institute, online HAZWOPER 8-hour refresher, as well as 24-hour training courses were created and offered. The launching of this new mode of delivery has almost tripled the number of participants receiving this training from the previous annual report (2009-2010). A total of 88 individuals received stipends to attend HST courses using the \$10,000 that are awarded to the SERC. Were it not for the availability of these funds for stipends, these public sector employees would not be able to attend these courses and receive the training required for them to continue to perform their duties. Needs assessments, program evaluations and impact assessments are conducted routinely, and the results are shared with course instructors as well as with the SERC faculty and external advisory board to ensure the continuous improvement of course offerings.